

ABSTRACT

The electrode material for a lithium secondary battery according to the present invention includes
5 particles of a solid state alloy having silicon as a main component, wherein the particles of the solid state alloy have a microcrystal or amorphous material including an element other than silicon, dispersed in microcrystalline silicon or amorphized silicon. The
10 solid state alloy preferably contains a pure metal or a solid solution. The composition of the alloy preferably has an element composition in which the alloy is completely mixed in a melted liquid state, whereby the alloy has a single phase in a melted
15 liquid state without presence of two or more phases. The element composition can be determined by the kind of elements constituting the alloy and an atomic ratio of the elements.